

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Service Rules for the 698-746, 747-762)	WT Docket No. 06-150
and 777-792 MHz Bands)	
)	
Revision of the Commission's Rules to Ensure)	CC Docket No. 94-102
Compatibility with Enhanced 911 Emergency)	
Calling Systems)	
)	
Section 68.4(a) of the Commission's Rules)	WT Docket No. 01-309
Governing Hearing Aid-Compatible Telephones)	
)	
Biennial Regulatory Review – Amendment of)	WT Docket No. 03-264
Parts 1, 22, 24, 27, and 90 to Streamline and)	
Harmonize Various Rules Affecting Wireless)	
Radio Services)	
)	
Former Nextel Communications, Inc.)	WT Docket No. 06-169
Upper 700 MHz Guard Band Licenses)	
and Revisions to Part 27 of the)	
Commission's Rules)	
)	
Implementing a Nationwide, Broadband,)	PS Docket No. 06-229
Interoperable Public Safety Network in)	
the 700 MHz Band)	
)	
Development of Operational, Technical and)	WT Docket No. 96-86
Spectrum Requirements for Meeting Federal,)	
State and Local Public Safety Communications)	
Requirements Through the Year 2010)	

**COMMENTS OF
THE SAN DIEGO COUNTY – IMPERIAL COUNTY, CALIFORNIA
REGIONAL COMMUNICATIONS SYSTEM**

I. Introduction and Summary

1. The San Diego County – Imperial County, California, Regional Communications System (RCS) submits these comments in response to the Commission's *Further Notice of Proposed Rulemaking (Further Notice)*, FCC 07-72, in the above-captioned proceedings.

2. The RCS finds there are many complex issues posed in the *Further Notice*, which was published in the *Federal Register* on May 2, 2007 with only a 21-day Comment period and a 7-day Reply Comment period - an extremely short time period considering the vast number¹ of issues the Commission requests comment on, and the potentially historic nature of this proceeding. While the RCS recognizes that the Commission is working to resolve many of these issues in order to meet a tight implementation schedule imposed by Congress in legislation, the RCS is concerned that, in an effort to meet these deadlines, the Commission has not thought out the ramifications of a number of the Commission's tentative conclusions on existing public safety systems now in the planning and/or installation phase to use the new 700 MHz Public Safety allocations once they become truly available in all areas of the country in early 2009.

3. The RCS recognizes that the issues raised in the *Further Notice* create an opportunity to "get it right" and take steps to improve public safety communications overall. We hope that the Commission will work with the public safety community and other stakeholders quickly and effectively to forge final rules that address public safety communications requirements without sacrificing core public safety principles, even if it takes a further cycle of proposals and comments to settle the issues in the Public Safety portion of the Upper 700 MHz Band.

4. Due to the limited time period for comment in this proceeding, the RCS will address only those elements of the *Further Notice* that are of greatest importance to, or primarily affect the operations of, the RCS. The first is the Commission's proposal eliminating the wideband channels in the public safety segment, allowing only broadband

¹ We noted more than 80 appearances of the terms "seek comment" or "seeking comment" in the *Further Notice* portion of the Commission's document.

operations and restructuring the public safety narrowband voice channels and guard band channels. The second element encompasses the Commission's intention to implement its *Ninth Notice of Proposed Rulemaking (Ninth NPRM)*² proposal to establish a national public safety licensee to manage a 700 MHz public safety broadband segment and its relationship to Frontline Wireless, LLC's (Frontline) proposal to designate a 10 megahertz "E Block" in the commercial segment.³ The RCS feels this relationship must be tightly defined in Public Safety's favor within the Commission's rules. Finally, we are concerned about what we see as a pending shortage of trained technicians for public safety to be able to accomplish all of the pending tasks within the Commission's time lines.

5. How the Commission resolves these issues will determine the success or failure of the Commission's intent of providing public safety agencies with improved communications and advanced communications services. We see an opportunity to make meaningful improvements to emergency response and preparedness; at the same time, many of the proposals contained in the *Further Notice* do not, in many respects, recognize the realities of public safety communications at the state and local level. We are concerned that, if left unchanged, these proposals will result not only in a lack of improvements, but may in fact deny access to the 700 MHz band to many agencies.

² Implementing a Nationwide, Broadband Interoperable Public Safety Network in the 700 MHz band and In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, *Ninth Notice of Proposed Rulemaking*, PS Docket No. 06-229, WT Docket 96-86, FCC 06-181 (December 20, 2006).

³ Comments of Frontline Wireless, LLC, PS Docket No. 06-229 and WT Docket No. 96-86 (filed Feb. 26, 2007), Reply Comments of Frontline Wireless, LLC, PS Docket No. 06-229 and WT Docket No. 96-86 (filed Mar. 12, 2007), Comments of Frontline Wireless, LLC, WT Docket No. 06-150 (filed Mar. 6, 2007).

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II. The San Diego County – Imperial County Regional Communications System

6. The RCS is a partnership of more than 225 member Public Safety and Public Service agencies within the 9,000 square miles of land and waterways in the San Diego and Imperial County, California, area. The member agencies, consisting of federal, state, local, tribal, special district, and private critical infrastructure entities, serve a combined population of 3.2 million documented residents and operate more than 20,000 subscriber units on the RCS' 800 MHz trunked radio system, covering approximately 97% of San Diego County, and 95% of Imperial County in topologies ranging from 6,533' to -235' AMSL, and population densities ranging from thousands per square mile to open wilderness.⁴ In calendar year 2006, there were 21,433,925 voice conversations transmitted over the RCS 800 MHz trunked radio system.

7. The County of San Diego Sheriff's Department, a major partner in the RCS, operates an existing 800 MHz mobile data system providing service over approximately

⁴ The RCS' 800 MHz trunked radio system operates on frequencies licensed to the State of California, the County of Imperial, and the County of San Diego, California.

95% of San Diego County. This 19.6 kb data system is currently undergoing a multi-million dollar upgrade, replacing the current radio infrastructure with new equipment that will deliver 96 kb data over the current RF channels upon implementation later this year; and deliver close to 1 Mb data speeds using the TIA-902 standard upon the availability of the 700 MHz Public Safety band in the San Diego area in early 2009.⁵

8. As the geographic area covered by the RCS is wholly within the 110 km U.S. – Mexico Sharing Zone, operations of the RCS in the 800 MHz band are subject to the conditions outlined in the “*Protocol Concerning The Use Of The 806-824/851-869 And 896-901/935-940 MHz Bands For Land Mobile Services Along The Common Border*,” effective June 2, 1995.⁶ This protocol provided for a combination of methods for dividing the available spectrum for primary use by Land Mobile services between the United States and Mexico. Under this protocol, the spectrum allocated for the relocation of existing U.S. public safety users under the Commission’s Rebanding process outlined in WT Docket 02-55 (806-809/851-854 MHz) is allocated to Mexico Primary status, inhibiting the ability of the RCS to negotiate with Sprint/Nextel for the realignment of the approximately 95 frequency pairs currently in use between 821-824/866-869 MHz and the approximately 25 frequency pairs currently in use between 815-821/860-866 MHz, until such time as the State Department of the United States can successfully renegotiate this protocol.

9. Because of the uncertainty that the RCS will be able to start the rebanding process any time soon, and the uncertainty that the RCS will emerge from the rebanding process “whole” (with the same number of useable frequencies as currently in use), the RCS

⁵ Operations in the 700 MHz Public Safety band within San Diego County are currently blocked by the presence of an analog TV station on Channel 69.

⁶ See http://www.fcc.gov/ib/sand/agree/files/mex-nb/806_896.pdf

has been anticipating gaining access to the pool of 700 MHz ‘general use’ frequencies that will become available in February of 2009.

III. Band Plan Issues

a. 700 MHz Public Safety Band Plan

10. In the U.S. – Mexico Sharing Zone, the 700 MHz Public Safety Band is subject to the conditions outlined in the “*Protocol Between The Department Of State Of The United States Of America And The Secretariat Of Communications And Transportation Of The United Mexican States Concerning The Allotment And Use Of The 698-806 MHz Band For Terrestrial Non-Broadcasting Radiocommunication Services Along The Common Border,*” signed in November of 2006.⁷ This protocol equally divides the 24 MHz of spectrum currently designated for Public Safety use in the United States for primary use in the United States and in Mexico, as shown below.

Figure 1: CURRENT BAND PLAN IN THE U.S. – MEXICO SHARING ZONE FOR PUBLIC SAFETY LAND MOBILE RADIO SYSTEM USE

(CHANNELS 68 & 69 SHOWN; CHANNELS 63 & 64 IDENTICAL.)

- 794.0	- 794.5	- 795.0	- 795.5	- 796.0	- 796.5	- 797.0	- 797.5	- 798.0	- 798.5	- 799.0	- 799.5	- 800.0	- 800.5	- 801.0	- 801.5	- 802.0	- 802.5	- 803.0	- 803.5	- 804.0	- 804.5	- 805.0	- 805.5	- 806.0
TV CH. 68												TV CH. 69												
U.S. PRI 794.0 – 795.5		MEXICO PRIMARY 795.5 – 798.5				U.S. PRI 798.5 – 800.0		U.S. PRI 800.0 – 801.5		MEXICO PRIMARY 801.5 – 804.5				U.S. PRI 804.5 – 806.0										

⁷ See http://www.fcc.gov/ib/sand/agree/files/mex-nb/698_806.pdf

11. In the *Further Notice* the Commission has proposed consolidating the narrowband voice operations in 700 MHz from two segments (the lower half of Channels 63/68 and the upper half of Channels 64/69) into one contiguous 6 MHz spectrum segment (Channels 64/69, or 770-776 / 800-806 MHz). The Commission further proposes to implement Public Safety Broadband data in Channels 63/68 (764-770/794-800 MHz) as a 5.0 MHz wide block of spectrum (dividable into two 2.5 MHz or four 1.25 MHz channels) starting at the lower end of the segment, with a 1.0 MHz “internal guard band” at the top end (769-770/799/800 MHz) of the segment. This realignment is shown in Figure 2.

FIGURE 2: BAND PLAN IN THE U.S. – MEXICO SHARING ZONE FOR PUBLIC SAFETY LAND MOBILE RADIO SYSTEM USE (WITH DATA AND VOICE CONSOLIDATION)

(CHANNELS 68 & 69 SHOWN; CHANNELS 63 & 64 IDENTICAL.)

- 794.0
- 794.5
- 795.0
- 795.5
- 796.0
- 796.5
- 797.0
- 797.5
- 798.0
- 798.5
- 799.0
- 799.5
- 800.0
- 800.5
- 801.0
- 801.5
- 802.0
- 802.5
- 803.0
- 803.5
- 804.0
- 804.5
- 805.0
- 805.5
- 806.0

TV CH. 68			TV CH. 69		
U.S. PRI 794.0 – 795.5	MEXICO PRIMARY 795.5 – 798.5	U.S. PRI 798.5 – 800.0	U.S. PRI 800.0 – 801.5	MEXICO PRIMARY 801.5 – 804.5	U.S. PRI 804.5 – 806.0
DATA		GUARD	NARROWBAND VOICE		

12. The RCS supports the Commission’s proposal. The RCS strongly recommends that the Commission rapidly convene an advisory process to recommend a revised Band Plan for the narrowband spectrum allocations (General Use, Interoperability, and State License), so as to realign the layout in order to eliminate redundant designations

for channels,⁸ provide a proper ratio of the service allocations within the Border Sharing Zones, and to re-evaluate the allocation of Secondary Trunked and Interoperability channels in light of the lessons learned in the 9/11 and Katrina disasters.

13. The RCS also notes that the consolidation of the data segment into Channels 63 and 68 would provide 2.0 MHz (paired) of usable “U.S. Primary” Broadband spectrum (764.0-765.5 / 794.0-795.5 MHz, and 768.5-769.0 / 798.5-799.0 MHz), in the U.S. – Mexico Sharing Zone, with the “internal guard band” also being “U.S. Primary” spectrum but potentially unusable to U.S. public safety agencies. Within this non-contiguous 2.0 MHz, there is only one “usable” (potentially at reduced power) 1.25 MHz broadband channel (764.0-765.25 / 794.0-795.25 MHz) along the 1951 miles of U.S. – Mexico border; “orphaned” .25 MHz (765.25-765.50 / 795.25-795.50 MHz) and .5 MHz (768.5-769.0 / 798.5-799.0 MHz) blocks of U.S. Primary spectrum; and the “internal guard band” at 769.0-770.0 MHz / 799.0 – 800.0 MHz. (The remaining “broadband” channels would be usable as long as there is no competing use on the Mexico side of the Border, and the power and antenna limitations for secondary operations in the Sharing Zone are met.)

14. The RCS recommends that, in lieu of adopting the proposal that the 1.0 MHz “internal guard band” be created outright, the Commission allocate the upper 2.25 MHz of the Channel 63/68 pair as ‘mixed use’ spectrum, managed by the Regional Planning Committees to allocate wideband and/or local broadband systems in a manner that mitigates interference to/from the adjacent Public Safety spectrum blocks , with the lower 3.75 MHz

⁸ When the 700 MHz Public Safety rules were developed, the Commission’s Public Safety National Coordination Committee (NCC) recommended that certain types of Interoperability channels be designated in each of the two blocks (Channels 63/68 and 64/69) to ensure the operational requirements of Public Safety were met, even if one set of Channels was blocked by incumbent television operations. With the end of TV operations in the Public Safety Block and the consolidation of the narrowband segments, this need would no longer exist.

of the Channel 63/68 pair assigned to the National Public Safety Licensee for broadband-only use. This arrangement would provide for the needs of local systems during the build-out period for the National network, and provide spectrum for specialized or localized wideband needs.

b. Upper 700 MHz Commercial Band plan

15. In the *Further Notice*,⁹ the Commission presents five proposals to restructure the current public safety and guard band channels in order to provide broadband data spectrum to public safety and to promote efficiencies in the commercial segment. Proposals 1 and 2 include a -1 MHz “offset” (an encroachment into the upper end of Channels 62 and 67) in the U.S. – Canada Border Sharing Zone to allow for public safety voice operations. The RCS sees this concept as counterproductive for public safety, as users of the 700 MHz spectrum in the Sharing Zone(s) would not have interoperability with users outside of the Sharing Zone and, upon the clearing of incumbent TV operations on Channels 64 and 69 in late August of 2011, the public safety agencies operating on offset channels would have to realign their operations at their expense.

16. Proposals 3, 4, and 5 are variations on Access Spectrum and Pegasus’ “Broadband Optimization Plan” (BOP) designed to address the Canadian Border issue by offsetting the entire public safety block down 1.0 MHz, and inserting the guard band “B” block (a commercial broadband provider) at 775-776/805-806 MHz. The resulting Band Plan is shown in Figure 3.

⁹ *Further Notice* at ¶¶ 182-206

FIGURE 3: BAND PLAN IN THE U.S. – MEXICO SHARING ZONE FOR PUBLIC SAFETY LAND MOBILE RADIO SYSTEM USE
(With -1.0 MHz Shift and “Guard Band B” Block at high end)

(CHANNELS 68 & 69 SHOWN; CHANNELS 63 & 64 IDENTICAL.)

- 793.0
- 793.5
- 794.0
- 794.5
- 795.0
- 795.5
- 796.0
- 796.5
- 797.0
- 797.5
- 798.0
- 798.5
- 799.0
- 799.5
- 800.0
- 800.5
- 801.0
- 801.5
- 802.0
- 802.5
- 803.0
- 803.5
- 804.0
- 804.5
- 805.0
- 805.5
- 806.0

67	TV CH. 68			TV CH. 69		
NON - PS	U.S. PRI 794.0 – 795.5	MEXICO PRIMARY 795.5 – 798.5	U.S. PRI 798.5 – 800.0	U.S. PRI 800.0 – 801.5	MEXICO PRIMARY 801.5 – 804.5	U.S. PRI 804.5 – 806.0
DATA			GUARD	NARROWBAND VOICE		GB “B”

17. The RCS supports the original BOP. Under that plan, the guard bands around the public safety block would be held by (and usable by) public safety. Instead, the three proposals presented in the *Further Notice* place the upper “B” guard band in the hands of a commercial license holder; therefore, adopting one of these proposals would result in a break in the continuity of the current Public Safety “receive window” from 794.0-809.0 MHz, and would place non-compatible broadband signals in the 805.0-806.0 MHz segment. Based on lessons we have learned in the 800 MHz band in dealing with ESMR operations, we see no benefit (and, in fact substantial risk) to public safety communications. Therefore, the RCS cannot support and recommends against any of the proposals that would result in a shift of the Public Safety segment down 1.0 MHz (to 763.0-775.0 / 793.0-805.0 MHz) for the purposes of maintaining an additional guard band at 775.0-776.0/805.0-806.0.

IV. Broadband vs. Wideband

18. In the *Further Notice* the Commission tentatively concludes to prohibit wideband operations on a “going forward basis.”¹⁰ The RCS does not support the conclusion that the Commission should eliminate Public Safety wideband operations at this point in time. The Commission’s conclusions fail to recognize the historic (under)funding of public safety radio systems, especially in jurisdictions subject to state constitutional limits on the ability to raise revenue for the capital and operational expenses of the jurisdiction, including these communications systems. The Commission’s conclusions also fail to recognize that the efforts to deploy a nationwide interoperable public safety broadband network, that matches or exceeds the coverage of existing data systems operating in existing “narrowband” spectrum, will take a number of years, even on an accelerated schedule.

19. The RCS is very concerned that the Commission, in limiting the ability of current public safety data systems that are postured to migrate to the wideband 700 MHz spectrum in early 2009 in favor of waiting the estimated 4-10 years for the build-out of a national infrastructure, will in fact negatively impact the very public safety data capabilities the Commission is working to enhance, and obsolete millions of dollars of taxpayer-funded equipment just as it is being placed into service.

20. The RCS feels that the Commission must adopt a flexible migration strategy that allows public safety to amortize its investment of taxpayer dollars on wideband technologies while any national broadband network is constructed, or allow a local jurisdiction to build a wideband network in order to augment coverage in areas where the national broadband network has yet to, or is not scheduled to, build out their coverage.

¹⁰ *Further Notice* at ¶253

V. The National Public Safety Licensee

21. The RCS notes that the *Further Notice* continues in the direction set by the *Ninth NPRM*, where a national public safety licensee would administer the broadband segment of the 700 MHz public safety allocation to provide a nationwide public safety broadband network to improve quality and coverage and unify public safety. The RCS supports the observations of the National Public Safety Telecommunications Council (NPSTC) that the Ninth NPRM proposal did not present a viable economic model.¹¹ The RCS also supports NPSTC's concept that the proposed National Public Safety License should be issued to a Public Safety Spectrum Trust Corporation (Trust) that will represent the nation's entire public safety community.

22. To ensure a successful partnership, it must be clear in the rules that the Trust and the E-Block licensee will jointly be deploying and maintaining a public safety network. The Commission must establish the parameters under which the Trust and E-Block licensee will work together to bring about a broadband network consistent with public safety standards, pervasive interoperability and access by all eligible agencies. The Commission must also assure that the E-Block licensee has no future option to back away from its obligations to serve the public safety community. The E-Block licensee's failure to perform their obligations to public safety should result in termination of the license with no option to

¹¹ NPSTC Comments at 8 (February 26, 2007), Implementing a Nationwide, Broadband Interoperable Public Safety Network in the 700 MHz band and In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, *Ninth Notice of Proposed Rulemaking*, PS Docket No. 06-229, WT Docket 96-86, FCC 06-181 (December 20, 2006).

negotiate the obligations downward. The relationship between the Trust and the successful bidder of the proposed E-Block will make or break this effort.

23. The Trust must also ensure the continued role of the 700 MHz Regional Planning Committees (RPCs). An important initial responsibility of the Trust will be to structure the public safety broadband network throughout the country, which must include preserving wideband capacity where necessary. The RPCs will provide crucial guidance and advice regarding how the needs of the local communities can most efficiently and effectively be met.

VI. Finite Qualified Human Resources Are Available to Maintain Current Public Safety Operability While Implementing All of the Desires and Mandates to Public Safety Over The Next Six to Ten Years

24. When one looks at the overall “big picture,” public safety governmental entities and the contract commercial wireless services providers who support them are facing an exceptional load of communications projects that must be completed in a relatively short period of time, while maintaining the operation of existing public safety systems. These additional activities include the completion of the 800 MHz Rebidding process mandated by the Commission;¹² the migration (in some cases, the complete replacement) of existing public safety and business / industrial communications systems operating below 512

¹² *Report And Order, Fifth Report And Order, Fourth Memorandum Opinion And Order, And Order*, FCC 04-168, adopted July 8, 2004

MHz to meet the January 2013 mandates for narrowband operations;¹³ the requirement to maintain operability of first and second generation Public safety 800 MHz trunked radio systems by replacing the core infrastructure (due to obsolescence caused by the withdraw of factory support and the lack of spare parts);¹⁴ the requirement to build out new voice systems (including 700 MHz) in areas of population growth; and the growth that will be caused by the implementation and buildout of a new Public Safety Broadband network.

25. It is the experience of the RCS and other commercial and/or public safety communications organizations we have communicated with that, while all of this core system work is being scheduled or is under way, the experienced pool of RF Engineers and Technicians who understand the issues of proper system installation and performance are either serving overseas in military support units or retiring from the industry at a rate faster than replacements can be recruited and trained, and we are concerned that the ability of public safety communications organizations to complete the multitude of projects within the time frames placed on them will be adversely impacted. .

26. The RCS therefore recommends the Commission keep in mind the other ongoing activities that Commission licensees have been mandated to perform when adopting the rules and timelines that will result from this proceeding.

VII. Conclusion

27. In the *Further Notice* the Commission has placed many proposals before the commercial telecommunications industry and public safety for consideration in an extremely

¹³ *Third Memorandum Opinion And Order, Third Further Notice Of Proposed Rule Making And Order*, FCC 04-292, adopted December 20, 2004

¹⁴ This issue will reach a critical point in the next five years, as one major manufacturer's second generation product line reaches end of life.

compressed time frame. Some of these proposals conflict with other proposals presented, making it extremely difficult to develop a clear picture of what the future holds for public safety. The RCS recommends to the Commission that they proceed with the development of the rules and policies for the 'lower' commercial portions of the Upper 700 MHz block (Channels 61, 62, 65, and 66), but to take the extra time (within an expedited time frame) to "get it right" by providing for both wideband and broadband data, and realigning the 700 MHz narrowband spectrum to optimize its efficiency for all public safety users.

28. RCS further urges the adoption of a National Public Safety Licensee and an E Block licensee that are both responsible to public safety. The proposals that would deploy and maintain a public - private network will only be viable if all agencies have access, the network represents public safety standards and the implementation provides for continued operation of existing public safety communications systems while providing a migration path to the public private network. RCS urges the Commission to make emphatic in its rules these concepts prior to any auction of the relevant portions of the 700 MHz band.

Respectfully submitted,

/s/

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